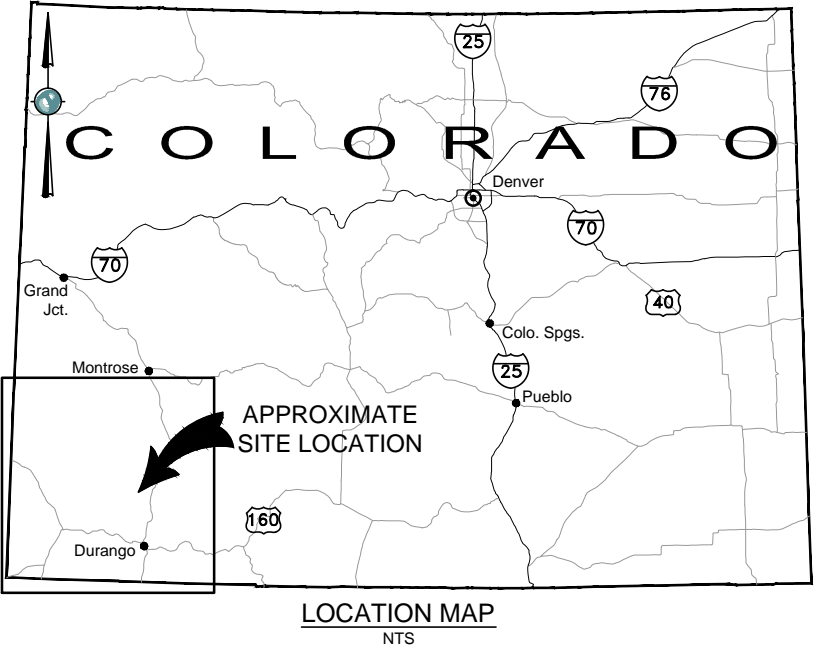
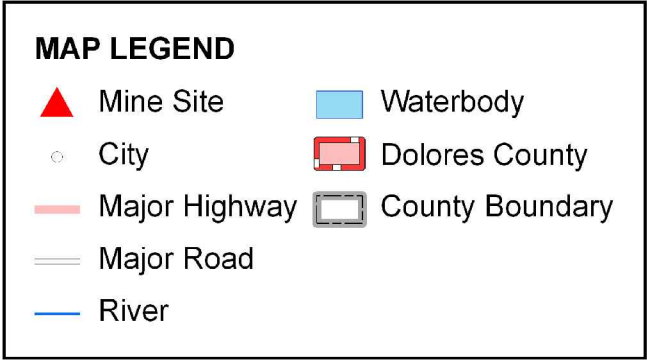
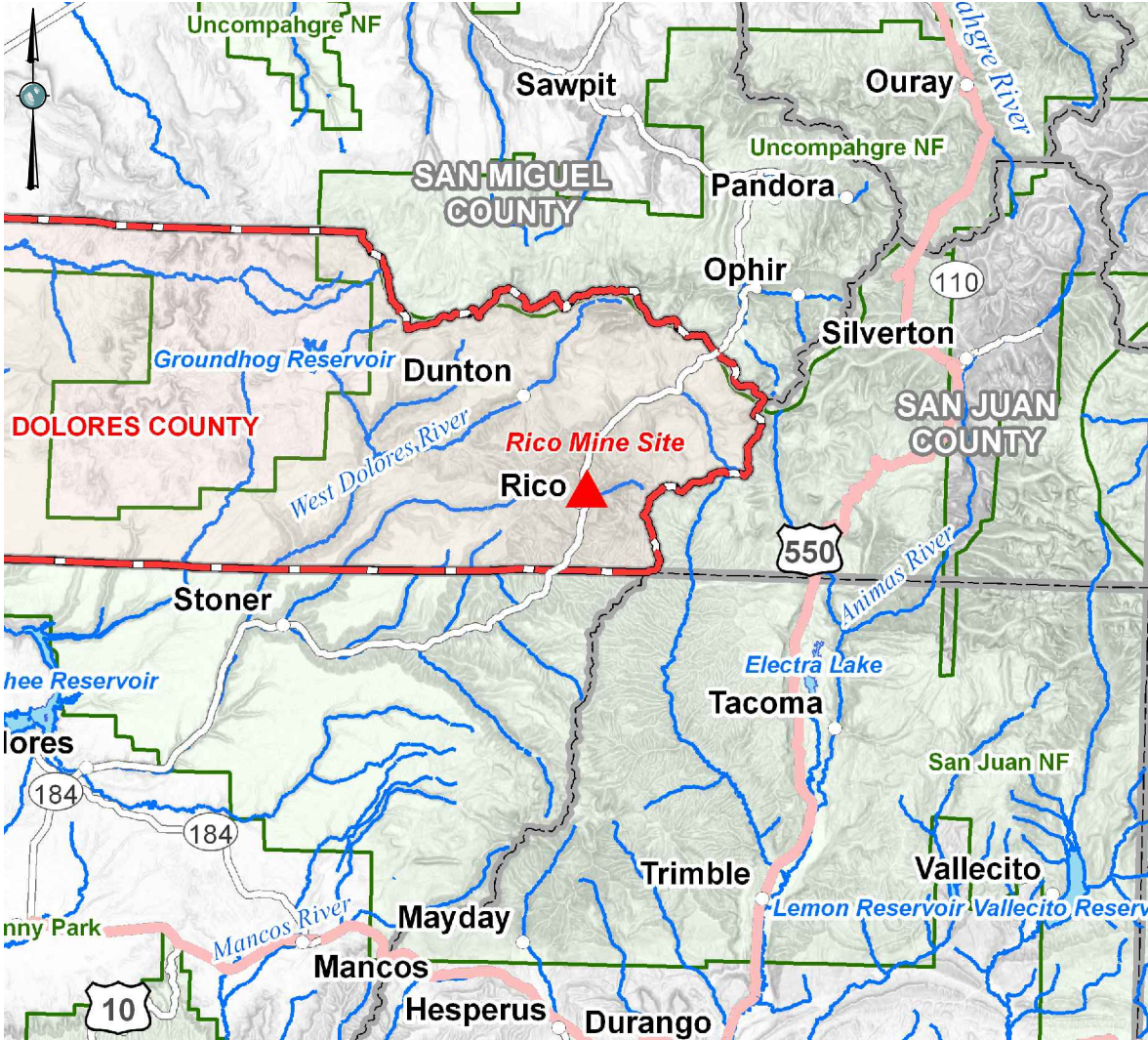

APPENDIX C

Constructed Wetland Demonstration Design Drawings

RICO - ARGENTINE MINE SITE
CONSTRUCTED WETLAND DEMONSTRATION
DOLORES COUNTY, COLORADO

SHEET LIST:

1. COVER SHEET
2. NOTES AND ABBREVIATIONS
3. MATERIALS LIST (SHEET 1 OF 2)
4. MATERIALS LIST (SHEET 2 OF 2)
5. GENERAL ARRANGEMENT
6. PROCESS FLOW DIAGRAM
7. PIPING DEMOLITION PLAN
8. GRADING AND DRAINAGE PLAN
9. MONITORING PLAN
10. STANDALONE SURFACE FLOW WETLAND PLAN
11. SETTLING BASIN NO. 2 PLAN
12. SETTLING BASIN NO. 1 PLAN
13. POLISHING AND STANDALONE SURFACE FLOW WETLAND PLAN
14. SUBSURFACE FLOW WETLAND PLAN
15. AERATION CHANNEL PLAN
16. ROCK DRAIN PLAN
17. OUTFALL PLAN
18. TREATMENT SYSTEM ACCESS ROAD PLAN AND PROFILE
19. STORM DRAIN PLAN AND PROFILE
20. HYDRAULIC PROFILE - TREATMENT SYSTEM
21. HYDRAULIC PROFILE- SB NO.2, STANDALONE SF WETLAND, BYPASS TO POND 18
22. POLISHING AND STANDALONE SURFACE FLOW WETLANDS SECTIONS
23. SETTLING BASINS NO. 1 & NO. 2 TYPICAL SECTIONS
24. SETTLING BASINS NO. 1 & NO. 2 DETAILS
25. SUBSURFACE FLOW WETLAND SECTIONS
26. SUBSURFACE FLOW WETLAND DETAILS
27. AERATION CHANNEL SECTIONS
28. AERATION CHANNEL DETAILS
29. ROCK DRAIN SECTIONS
30. ROCK DRAIN DETAILS
31. SECTIONS AND DETAILS SHEET (SHEET 1 OF 6)
32. SECTIONS AND DETAILS SHEET (SHEET 2 OF 6)
33. SECTIONS AND DETAILS SHEET (SHEET 3 OF 6)
34. SECTIONS AND DETAILS SHEET (SHEET 4 OF 6)
35. SECTIONS AND DETAILS SHEET (SHEET 5 OF 6)
36. SECTIONS AND DETAILS SHEET (SHEET 6 OF 6)
37. ELECTRICAL ONE-LINE DRAWING
38. ELECTRICAL CONDUIT RUN
39. ELECTRICAL CONDUIT TERMINAL DETAILS
40. ELECTRICAL CONDUIT SCHEDULE (SHEET 1 OF 2)
41. ELECTRICAL CONDUIT SCHEDULE (SHEET 2 OF 2)
42. ELECTRICAL CIRCUIT SCHEDULE



Plot Date: 09/11/13 - 5:34pm, Plotted by: mark.crater
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan set\, Drawing Name: Cover Sheet.dwg

REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN_____MGC	 10670 White Rock Road, Suite 100 Rancho Cordova, CA 95670 (916) 636-3200	RICO - ARGENTINE MINE SITE CONSTRUCTED WETLAND DEMONSTRATION		DATE: 05/31/13	
	1	ISSUED FOR REVIEW	05/31/13	STA	DESIGNED_____KMW				SCALE: NTS	
	2	ISSUED FOR CONSTRUCTION	06/28/13	STA	CHECKED_____CBF		COVER SHEET		SHEET: 1 OF 42	
	 4	ADDENDUM 2	08/23/13	STA	REVIEWED_____RJB				PROJ No:	
							SA11161315		1	
DATUM										

Plot Date: 09/11/13 - 5:35pm, Plotted by: mark.crater
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan set\ Drawing Name: Notes Sheet.dwg

NOTES:

1.

ALL PIPES TO BE INSTALLED AS 3" SCH 80 PVC, UNLESS OTHERWISE NOTED
2.

DATUM UTM ZONE 12S, FEET, NAD83
3.

ELEVATIONS ARE PRESENTED AS FEET ABOVE MEAN SEA LEVEL
4.

CONTROL POINT 03 (FOLEY)
N: 1388956.46
E: 2267960.06
Z: 8845.24
5.

FIELD FIT HORIZONTAL BENDS AS NECESSARY
6.

GEOGRID MAY BE REQUIRED DURING CONSTRUCTION TO STABILIZE EXISTING CONDITIONS. SEE TECHNICAL SPECIFICATIONS.
7.

EXISTING ACCESS ROAD TO REMAIN OPEN AND MAINTAINED DURING CONSTRUCTION. TEMPORARY CLOSURES TO THE EXISTING ACCESS MUST BE COORDINATED WITH ANDERSON. IMPACTS TO THE EXISTING ACCESS ROAD MUST BE REPAIRED WITH COMPACTED CLASS 6 GRADED TO MATCH EXISTING GRADE.
8.

THE ST. LOIS CHANNEL SHALL REMAIN FUNCTIONAL AND UNIMPACTED DURING CONSTRUCTION.
9.

ALL EQUIPMENT, MATERIALS, AND SUPPLIES MUST BE PURCHASED PER THE MATERIALS LIST. ANY SUBSTITUTIONS MUST BE PRE-APPROVED, IN WRITING, BY THE ENGINEER
10.

EXISTING STRUCTURES AND TOPOGRAPHY ARE BASED ON A COMPILATION OF AERIAL IMAGERY, SURVEY AND FIELD VISITS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS.
11.

IF CALCINES ARE ENCOUNTERED DURING EXCAVATION, CALCINES SHALL BE SEGREGATED AND STORED IN A SEPARATE AREA IN THE LAYDOWN AS SPECIFIED BY ANDERSON.
12.

IF POND SEDIMENTS, UNSUITABLE FOR USE AS BACKFILL MATERIAL, ARE ENCOUNTERED THEY SHALL BE SEGREGATED AND STORED IN A SEPARATE AREA IN THE LAYDOWN AS SPECIFIED BY ANDERSON.

ABBREVIATIONS:

APPROX. = APPROXIMATELY
BOM = BOTTOM OF MATRIX
BP = ALIGNMENT BEGINNING
BVCE = VERTICAL TANGENT - CURVE INTERSECT ELEVATION
BVCS = VERTICAL TANGENT - CURVE INTERSECT STATION
CPVC = CLEAR POLYVINYL CHLORIDE
CHDPE = CORRUGATED HIGH DENSITY POLYETHYLENE
DIA. = DIAMETER
EP = ALIGNMENT END
EVCE = VERTICAL CURVE - TANGENT INTERSECTION ELEVATION
EVCS = VERTICAL CURVE - TANGENT INTERSECTION STATION
FNPT = FEMALE NATIONAL PIPE THREAD
GPM = GALLONS PER MINUTE
H = HEIGHT
HDG = HOT DIPPED GALVANIZED
HDPE = HIGH DENSITY POLYETHYLENE
INVERT = BOTTOM OF PIPE/FLOW LINE
K = CURVE COEFFICIENT
L = LENGTH
LB = BOUND
LVC = LENGTH OF VERTICAL CURVE
MAX. = MAXIMUM
MIL = MILLIMETER
MIN. = MINIMUM
NO. = NUMBER
O.C. = ON CENTER
O.D. = OUTER DIAMETER
OZ = OUNCE
PC = POINT OF CURVATURE
PERF. = PERFORATED PIPE
PT = POINT OF TANGENCY
PVC = POLYVINYL CHLORIDE
PVI = POINTS OF VERTICAL INTERSECTION
S = SLOPE
SS = STAINLESS STEEL
SB = SETTLING BASIN
SCH = SCHEDULE
SF = SURFACE FLOW
SSF = SUBSURFACE FLOW
STA = STATION
TEMP = TEMPERATURE
TOB = TOP OF BERM (TOP OF FREEBOARD)
TOM = TOP OF MATRIX
TYP. = TYPICAL
V = VOLT
W = WIDTH
WCS = WATER CONTROL STRUCTURE
WSE = WATER SURFACE ELEVATION

REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN_____KMW	<div> 10670 White Rock Road, Suite 100 Rancho Cordova, CA 95670 (916) 636-3200</div>	RICO - ARGENTINE MINE SITE CONSTRUCTED WETLAND DEMONSTRATION		DATE: 05/31/13	
	1	ISSUED FOR REVIEW	05/31/13	STA	DESIGNED_____KMW				SCALE: NTS	
	2	ISSUED FOR CONSTRUCTION	06/28/13	STA	CHECKED_____CBF				SHEET: 2 OF 42	
					REVIEWED_____RJB		NOTES AND ABBREVIATIONS		PROJ No:	2
DATUM									SA11161315	

Plot Date: 09/11/13 - 5:35pm, Plotted by: mark.crater
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan set\, Drawing Name: Materials Sheet.dwg

UNIT PROCESS	EQUIPMENT / MATERIALS
CONCRETE FLOW DIVERSION BOX	4' L X ' W X 3' H PRECAST CONCRETE INLET BOX WITH LID AND INTERNAL WEIR
	AGGREGATE BEDDING
	15" SCH 80 PVC PIPE
	18" SCH 80 PVC PIPE
	LINK-SEAL MODULAR SEALS
	MISC. 15" SCH 80 PVC FITTINGS
	MISC. 18' SCH 80 PVC FITTINGS
SB NO.2	32" L X 42" W X 21" H PRECAST CONCRETE BOX WITH WEIR OPENING WITH LID
	4" DIA. HDPE BLACK UV STABILIZED INSULATING BALLS
	9' LONG 6" DIA. HOLLOW GALVANIZED STEEL POSTS
	6' H CHAIN LINK FENCE
	6" DIA. GALVANIZED STEEL END CAP
	3/8" HDG BALLAST CHAIN
	3/8" SS ANCHOR CABLE
	10" FLOAT
	4 GUNDERBOOM FILTER BARRIER
	1/8" CABLE, VORTEX RING ANCHORS, EYE BOLTS, AND WIRE ROPE CLIPS
	6" SCH 40 PVC PERF. PIPE 3/8" HOLES AT 120° EVERY 3"
	45° RADIUS SWEEP
	22° RADIUS SWEEP
	6" SCH 80 PVC PIPE
	6" X 6" X 6" SCH 80 TEE
	6" X 3" REDUCERS
	3" TRUE UNION 2000 PVC BALL VALVE WITH EXTENSION KIT
	1" SCH 80 PVC EXTENSION PIPE
	EXTENSION KIT VALVE HANDLE
	12" DIA. PLASTIC VALVE BOX WITH LID
SF WETLAND	6" SCH 40 PVC PERF. PIPE
	3" - 6" DIA. WASHED ROUND ROCK
	TOPSOIL
	SEDGES
	45° RADIUS SWEEP
	6" SCH 80 PVC PIPE
	6" X 3" SCH 40 PVC REDUCERS
	6" SCH 40 PVC END CAPS
	3" TRUE UNION 2000 PVC BALL VALVE WITH EXTENSION KIT
	1" SCH 80 PVC EXTENSION PIPE
	EXTENSION KIT VALVE HANDLE
	AGRIDRAIN INLINE WCS 5' H X 8" W X 10" D - 6" DIA. FLEXIBLE COUPLER WITH FITTINGS
	5" AND 7" REMOVABLE STOPLOGS

UNIT PROCESS	EQUIPMENT / MATERIALS
SB NO.1	32" L X 42" W X 21" H PRECAST CONCRETE BOX WITH WEIR OPENING WITH LID
	4" DIA. HDPE BLACK UV STABILIZED INSULATING BALLS
	6' H CHAIN LINK FENCE
	9' LONG 6" DIA. HOLLOW GALVANIZED STEEL ANCHOR POSTS
	6" DIA. GALVANIZED STEEL END CAP
	3/8" HDG BALLAST CHAIN
	3/8" SS ANCHOR CABLE
	6" FLOAT
	8130 XR-5 FLOATING BAFFLE, 21' L, 6' D
	1/8" CABLE, VORTEX RING ANCHORS, EYE BOLTS, AND WIRE ROPE CLIPS
	6" SCH 40 PVC PERF. PIPE 3/8" HOLES AT 120° EVERY 3"
	45° RADIUS SWEEP
	22° RADIUS SWEEP
	6" SCH 80 PVC PIPE
	6" x 6" x 6" SCH 80 TEE
	6" x 3" SCH 80 PVC REDUCER
	3" TRUE UNION 2000 PVC BALL VALVE WITH EXTENSION KIT
	1" SCH 80 PVC EXTENSION PIPE
	EXTENSION KIT VALVE HANDLE
	12" DIA. PLASTIC VALVE BOX WITH LID
	AGRIDRAIN INLINE WCS 5' H X 8" W X 10" D - 6" DIA. FLEXIBLE COUPLER WITH FITTINGS
POLISHING SF WETLAND	5" AND 7" REMOVABLE STOPLOGS
	6" SCH 40 PVC PERF. PIPE
	3" - 6" DIA. WASHED ROUND ROCK
	TOPSOIL
	SEDGES
	6" SCH 80 PVC PIPE
	6" X 3" SCH 40 PVC REDUCERS
	6" SCH 40 PVC END CAPS
	3" TRUE UNION 2000 PVC BALL VALVE WITH EXTENSION KIT
	1" SCH 80 PVC EXTENSION PIPE
	EXTENSION KIT VALVE HANDLE
	12" DIA. PLASTIC VALVE BOX WITH LID
	AGRIDRAIN INLINE WCS 5' H X 8" W X 10" D - 6" DIA. FLEXIBLE COUPLER WITH FITTINGS
	5" AND 7" REMOVABLE STOPLOGS

UNIT PROCESS	EQUIPMENT / MATERIALS
SSF WETLAND	12" SCH 40 PVC PERF. PIPE
	12" SCH 40 END CAPS
	3" X 3" X 3" SCH 40 PVC TEE
	3" X 12" SCH 40 PVC REDUCER
	3" - 6" DIA. WASHED ROUNDED ROCK
	4 60 MIL HDPE VERTICAL BAFFLE
	1" - 2" WASHED FIR AND PINE WOOD CHIPS
	1.5" DIA. WASHED ROUNDED ROCK
	SHEEP MANURE, PREMIUM AMENDMENT (60% MANURE AND 40% COMPOSTED ASPEN FINES)
	SULFUR PRILL
	ALASKA FISH FERTILIZER
	CATTAILS
	4" TRUE UNION 2000 PVC BALL VALVE WITH EXTENSION KIT
	1" SCH 80 PVC EXTENSION PIPE
	EXTENSION KIT VALVE HANDLE
	12" DIA. PLASTIC VALVE BOX WITH LID
	4" SCH 80 PVC PIPE
	6" X 4" SCH 40 PVC REDUCER
	6" SCH 40 PVC ELBOW
	6" SCH 40 PVC PERF. PIPE
	6" SCH 40 PVC END CAP
AERATION CHANNEL	3" - 6" DIA. WASHED ROUNDED ROCK
	CUSTOM AGRIDRAIN WCS 8' H X 2' W X 1.5' D - 4" DIA. FLEXIBLE COUPLER WITH FITTINGS
	5" AND 7" REMOVABLE STOPLOGS
	DURAPAC VF48 VERTICAL UPFLOW MEDIA
	3" TRUE UNION 2000 PVC BALL VALVE WITH EXTENSION KIT
	1" SCH 80 PVC EXTENSION PIPE
	EXTENSION KIT VALVE HANDLE
	12" DIA. PLASTIC VALVE BOX WITH LID
	12" SCH 80 PVC
	1/4" HDPE OR VINYL SCREEN
ROCK DRAIN	4.5' L X 3.5' W X 4' H PRECAST CONCRETE BOX
	1.5' L X 2.5' W POLYETHYLENE GRATE
	6" SCH 40 PVC PERF. PIPE
	6" X 3" SCH 40 PVC REDUCERS
	6" SCH 40 PVC END CAPS
	1" - 1.5" DIA. WASHED ANGULAR LIMESTONE
	4" DIA. HDPE BLACK UV STABILIZED INSULATING BALLS
	AGRIDRAIN INLINE WCS 6' H X 8" W X 10" D - 6" DIA. FLEXIBLE COUPLER WITH FITTINGS
	5" AND 7" REMOVABLE STOPLOGS

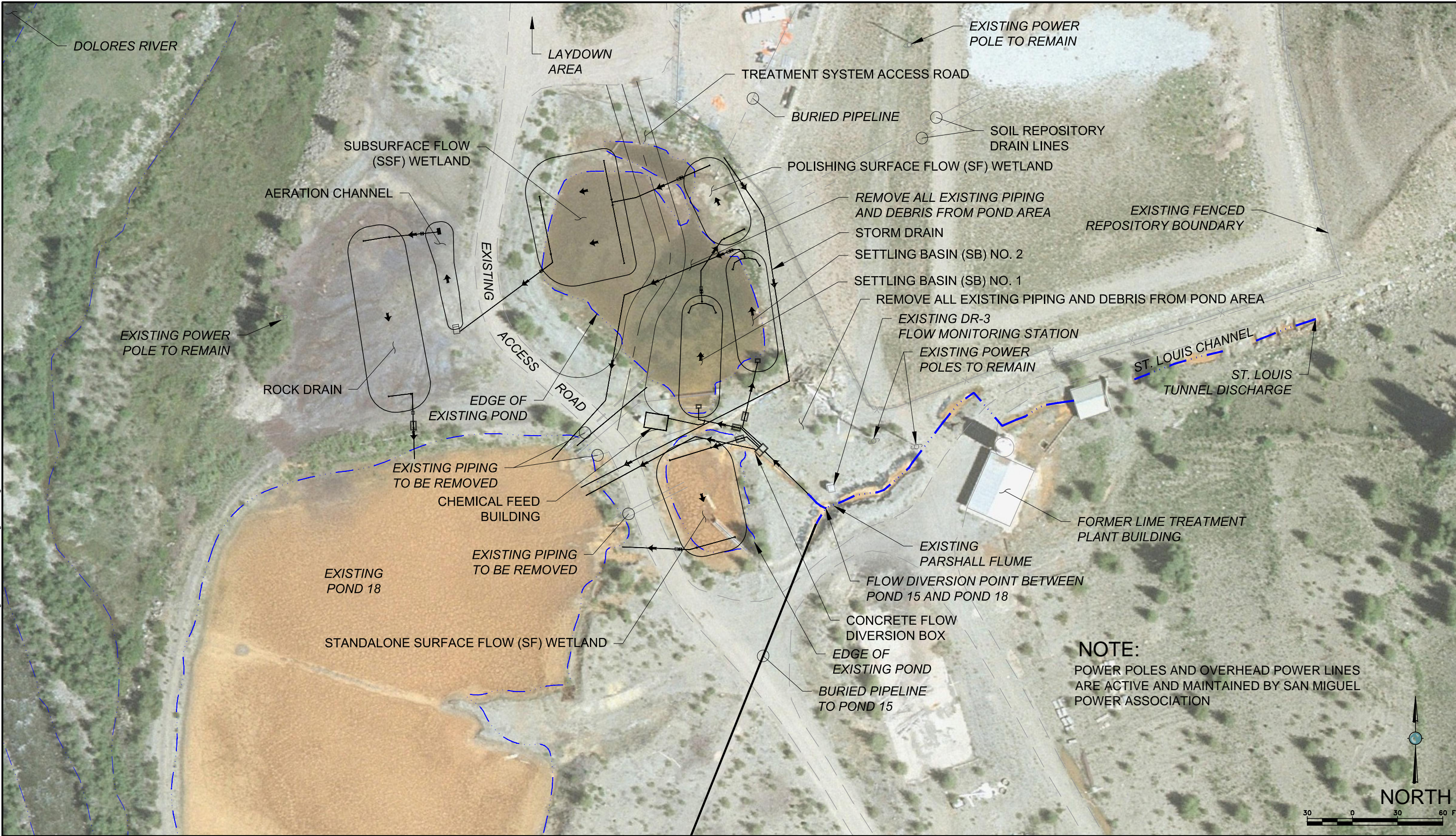
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	2	ISSUED FOR CONSTRUCTION	06/28/13	STA	CHECKED _____ CBF		MATERIALS LIST (SHEET 1 OF 2)		SHEET: 3 OF 42	
	4	ADDENDUM 2	08/23/13	STA	REVIEWED _____ RJB				PROJ No: SA11161315	3
DATUM										

UNIT PROCESS	EQUIPMENT / MATERIALS
SYSTEM OUTFALL WITH POND 18	6 - 8" DIA. ROUNDED ROCK
CHEMICAL FEED BUILDING / CHEMICAL FEED SYSTEM	10'Wx16'Lx8'H TUFF SHED PREMIER PRO TALL RANCH WITH ACCESSORIES
	THERMAL INSULATION
	CLASS 6 ROAD BASE
	2"x6" PRESSURE TREATED WOOD BLOCKING
	3/4" PRESSURE TREATED PLYWOOD AND SCREWS
	MR88 EARTH ANCHORS WITH SIMPSON TIES AND ANCHOR ROD
	4' L X 2' W X6' H CABINET
	300-WATT 240V ELECTRIC HEAT UNIT WITH THERMOSTAT
	HAWS MODEL 7601.37 PRESSURIZED EYE WASH STATION
	BASCO DRUM HEATER, 30-GAL, 720-WATT
	5 PORTER-CABLE AIR COMPRESSOR, 150 PSI MAX.
	1000-L TOTE OF CLEAR TECH CTI 4900
	8'x6'x1' SAFEGUARDS PREVENT FOLDABLE SECONDARY CONTAINMENT
	2" SCH 80 PVC PROTECTIVE PIPING AND FITTINGS
	2" SCH 80 PVC SOCKET FLANGE
	PERISTALTIC PUMP BLUE-WHITE INDUSTRIES FLEX FLO A1N00F-4T
	3/8" OD LLDPE DISCHARGE TUBING AND FITTINGS
	3/8" OD CLEAR PVC SUCTION TUBING
	METERING PUMP CONTAINMENT ENCLOSURE, TWO-PUMP MODEL
	1/4" OD PE DISCHARGE TUBING AND FITTINGS
	PAD LOCK
	3" KOFLO LOW PRESSURE STATIC MIXER WITH 6 ELEMENTS AND 1/4" FNPT INJECTION PORT AND FITTINGS
	12" DIAMETER PLASTIC VALVE BOX WITH LID

UNIT PROCESS	EQUIPMENT / MATERIALS	
ELECTRICAL	COMMERCIAL ELECTRIC WALL HEATER	
	24V DC POWER PANEL FOR FLOWMETERS	
	2 POLE 30 AMP CIRCUIT BREAKER FOR EXISTING PANELBOARD	
	20 AMP GFCI RECEPTACAL AND GANG BOX	
	INCANDESCENT LIGHT SOCKET WITH 100 WATT BULB	
	LIGHT SWITCH WITH GANG BOX	
	12 GAUGE GREEN THHN ELECTRICAL WIRE	
	12 GAUGE WHITE THHN ELECTRICAL WIRE	
	12 GAUGE RED THHN ELECTRICAL WIRE	
	14 GAUGE GREEN THHN ELECTRICAL WIRE	
	14 GAUGE WHITE THHN ELECTRICAL WIRE	
	14 GAUGE RED THHN ELECTRICAL WIRE	
	8 GAUGE GREEN THHN ELECTRICAL WIRE	
	8 GAUGE WHITE THHN ELECTRICAL WIRE	
	8 GAUGE BLACK THHN ELECTRICAL WIRE	
	10 GAUGE BARE COPPER ELECTRICAL WIRE	
	1/2" FLEXIBLE PVC ELECTRICAL CONDUIT	
	1/2" SCH 40 PVC ELECTRICAL CONDUIT	
	1" SCH 40 PVC ELECTRICAL CONDUIT	
	2" SCH 40 PVC ELECTRICAL CONDUIT	
	MISC. ELECTRICAL CONDUIT FITTINGS	
	5/8"X10' COPPER GROUNDING RODS	
	120/240 VAC, 12 CIRCUIT MIN, SURFACE MOUNT PANELBOARD WITH 2 POLE 30 AMP MAIN CIRCUIT BREAKER	
	2 POLE, 20 AMP CIRCUIT BREAKER	
	1 POLE, 20 AMP CIRCUIT BREAKER	
	1 POLE, 15 AMP CIRCUIT BREAKER	
	120 VAC TO 24V DC POWER PANEL FOR FLOWMETERS	
	LINER	60 MIL HDPE DOUBLE-SIDED TEXTURED GEOMEMBRANE LINER
		SS BANDING AND SEALS
		12-OZ NON-WOVEN GEOTEXTILE
FLOW MONITORING	2" DIA. TOSHIBA ELECTROMAGNETIC FLOWMETER	
	VENDOR SUPPLIED POWER CABLE	
	VENDOR SUPPLIED SIGNAL CABLE	
	SS GROUNDING RINGS	
	PIPE SUPPORTS	
	3" SCH 80 PVC BALL VALVE	
	3" SCH 80 GATE VALVE	
	3" X 2" SCH 80 REDUCER BUSHINGS	
	3" X 2" SCH 80 REDUCER COUPLINGS	
	3" SCH 80 FLANGES	
	2" SCH 80 PIPE	
	5'L X 3'W X 4'H PRECAST CONCRETE BOX	

UNIT PROCESS	EQUIPMENT / MATERIALS
SAMPLING / MONITORING	4" SCH 40 PVC SCREEN WITH 0.1" MACHINE SLOTS
	4" SCH 40 PVC PIPE
	4" SCH 40 PVC END CAPS
	48" TEMPERATURE PROFILE PROBE WITH 70' LEAD WIRE LENGTH
	36" TEMPERATURE PROFILE PROBE WITH 70' LEAD WIRE LENGTH
	NEMA 4X SS ENCLOSURE 36" H X 24" W X 10" D
	NEMA 4X SS ENCLOSURE 24" H X 12" W X 8" D
	2" SCH 80 PVC PERF. PIPE
	2" SCH 80 PVC END CAP
	2" SCH 80 PVC 36" RADIUS SWEEPS
	2" SS OR PVC PIPE CLAMPS
	MIFAB CXM RUBBER PIPE SUPPORTS
	3/16" SS CABLE
	1" SS EYE HOOKS
	2.5" DIA. GALVANIZED POSTS
	QUICKCRETE
	UTILITY MODIFICATION
42" L X 42" W X 96" H REINFORCED CONCRETE STORM DRAIN INLET BOX	
42" L X 42" W X 66" H REINFORCED CONCRETE STORM DRAIN INLET BOX	
STORM DRAIN TRASH RACKS	
24" CHDPE PIPE WITH FITTINGS	
TRENCH BACKFILL	CLASS B BEDDING
	RIGID FOAM INSULATION
TREATMENT SYSTEM ROAD / ACCESS PATH	CLASS 6 ROAD BASE
	12" DIA. CHDPE PIPE WITH FITTINGS
MISCELLANEOUS CONSTRUCTION MATERIAL	CONCRETE
	SILT FENCE
	STRAW WATTLES
	CLASS 6 ROAD BASE
PIPE / FITTINGS BETWEEN STRUCTURES	3" SCH 80 PVC PIPE
	4" SCH 80 PVC PIPE
	MISC. 3" SCH 80 OR SCH 40 PVC FITTINGS

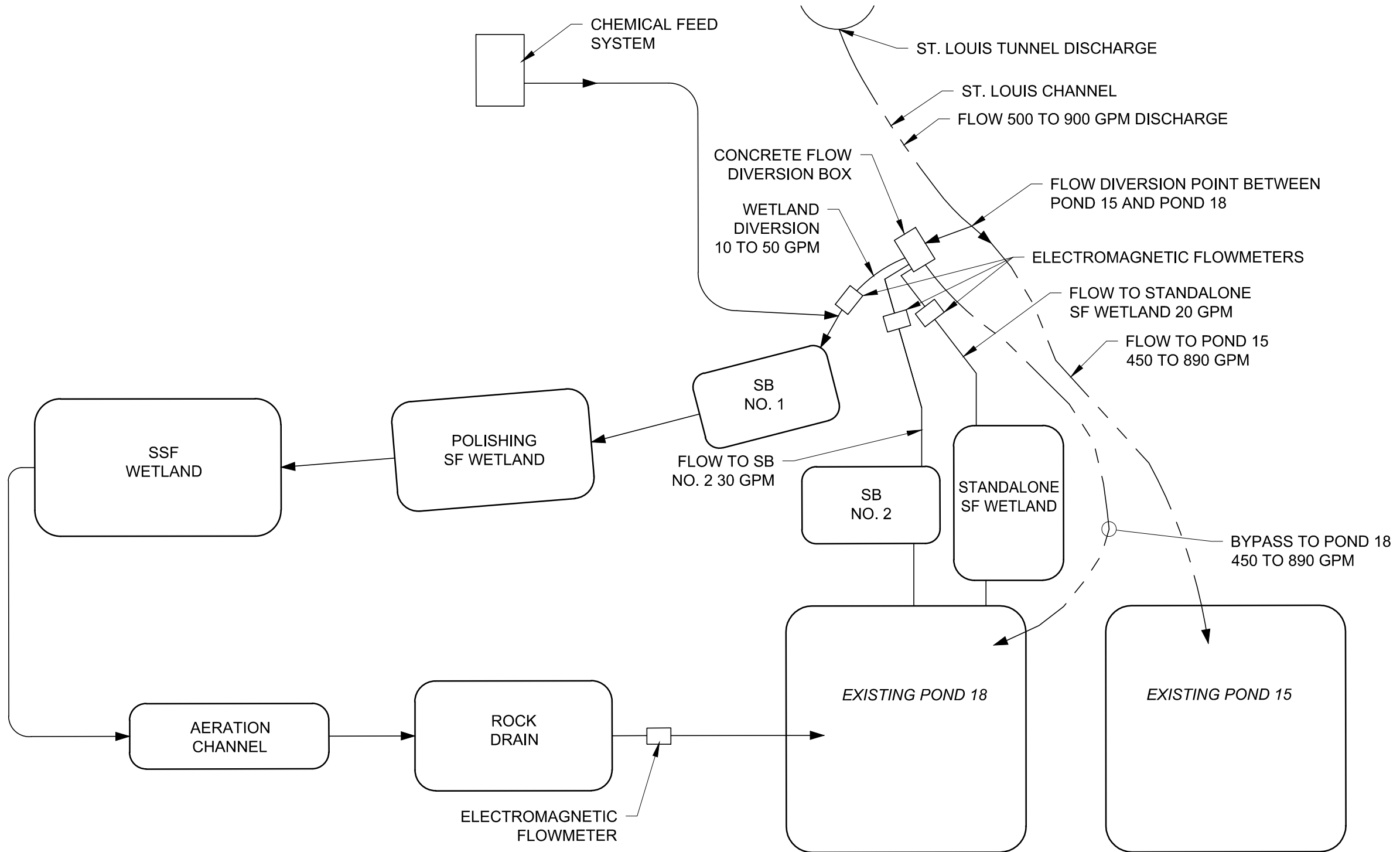
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	1	ISSUED FOR REVIEW	05/31/13	STA	DESIGNED_____ARC				SCALE: NTS	
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		ADDENDUM 2	08/23/13	STA	REVIEWED_____RJB		MATERIALS LIST (SHEET 2 OF 2)		PROJ No:	4
		ADDENDUM 3	09/06/13	STA					SA11161315	
	DATUM									



REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN	DWW	 10670 White Rock Road, Suite 100 Rancho Cordova, CA 95670 (916) 636-3200	RICO - ARGENTINE MINE SITE CONSTRUCTED WETLAND DEMONSTRATION		DATE: 05/31/13	
	1	ISSUED FOR REVIEW	05/31/13	STA	DESIGNED	KF				SCALE: 1" = 60'	
	2	ISSUED FOR CONSTRUCTION	06/28/13	STA	CHECKED	CBF		GENERAL ARRANGEMENT		SHEET: 5 OF 42	
					REVIEWED	RJB				PROJ No:	5
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DATUM											

Plot Date: 09/11/13 - 5:35pm, Plotted by: mark.crater
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Plot Date: 09/11/13 - 5:35pm, Plotted by: mark.crater
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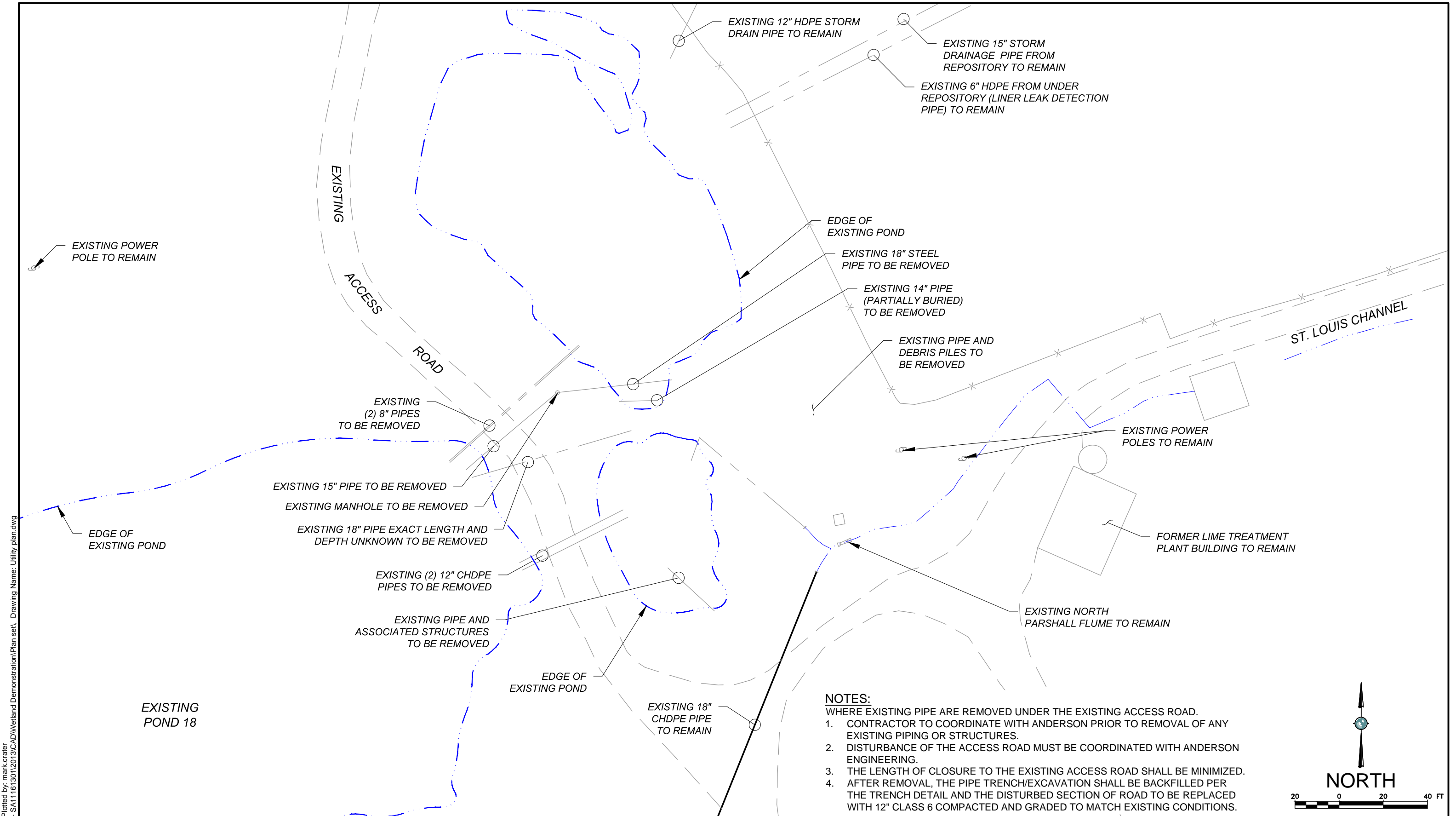


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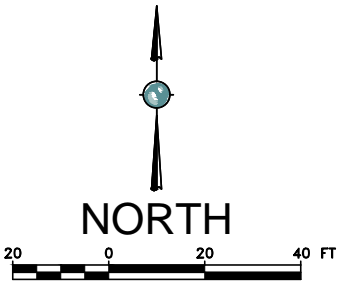
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DATUM		2	ISSUED FOR CONSTRUCTION	06/28/13	STA	CHECKED	CBF	PROCESS FLOW DIAGRAM		SHEET: 6 OF 42	
						REVIEWED	RJB			PROJ No:	6
								SA11161315			

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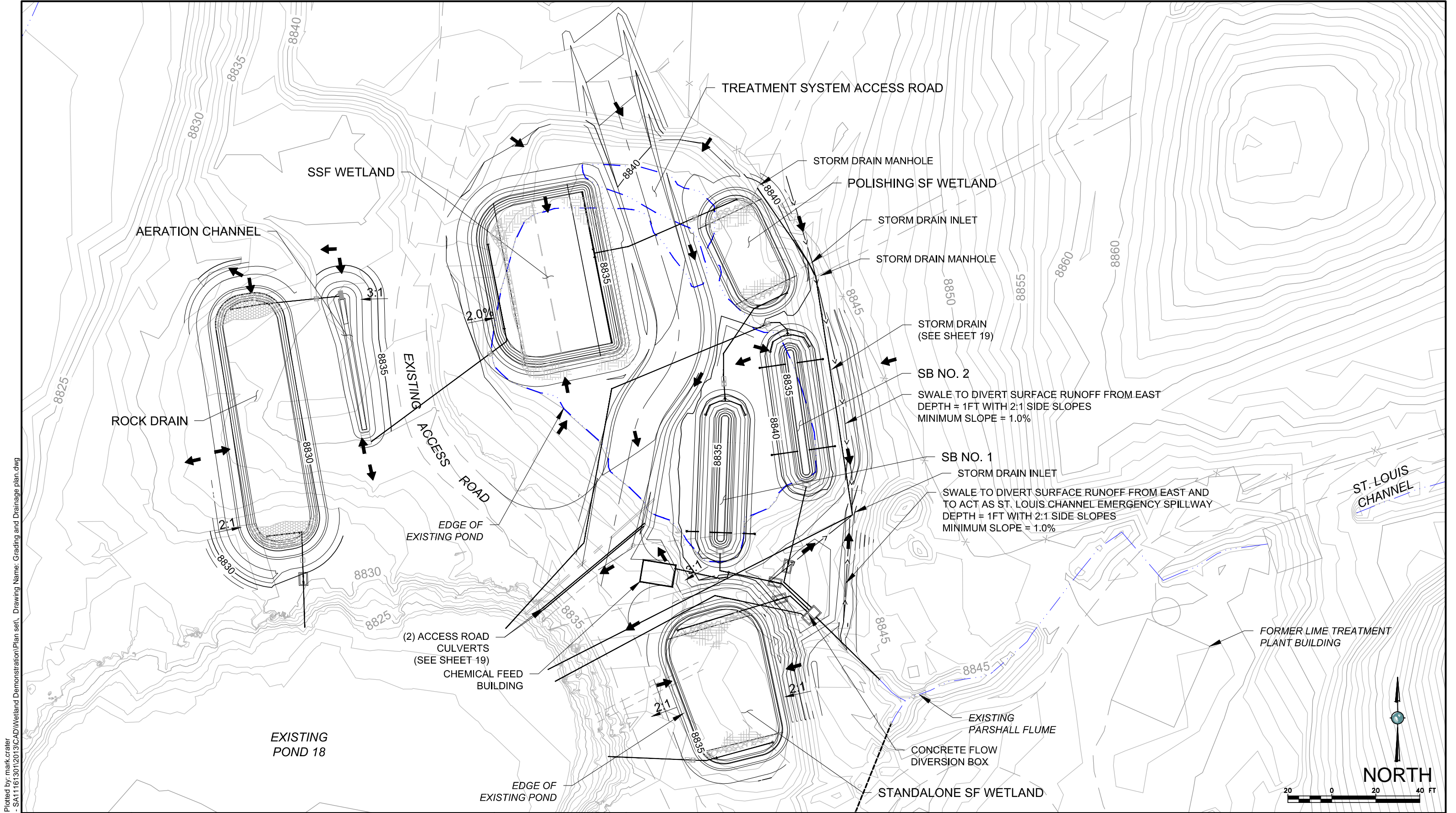
- NOTES:**
WHERE EXISTING PIPE ARE REMOVED UNDER THE EXISTING ACCESS ROAD.
1. CONTRACTOR TO COORDINATE WITH ANDERSON PRIOR TO REMOVAL OF ANY EXISTING PIPING OR STRUCTURES.
 2. DISTURBANCE OF THE ACCESS ROAD MUST BE COORDINATED WITH ANDERSON ENGINEERING.
 3. THE LENGTH OF CLOSURE TO THE EXISTING ACCESS ROAD SHALL BE MINIMIZED.
 4. AFTER REMOVAL, THE PIPE TRENCH/EXCAVATION SHALL BE BACKFILLED PER THE TRENCH DETAIL AND THE DISTURBED SECTION OF ROAD TO BE REPLACED WITH 12" CLASS 6 COMPACTED AND GRADED TO MATCH EXISTING CONDITIONS.



REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN	MGC	 10670 White Rock Road, Suite 100 Rancho Cordova, CA 95670 (916) 636-3200	RICO - ARGENTINE MINE SITE CONSTRUCTED WETLAND DEMONSTRATION		DATE: 06/28/13		
	1	ISSUED FOR CONSTRUCTION	06/28/13	STA	DESIGNED	KF				SCALE: 1" = 40'		
								PIPING DEMOLITION PLAN		SHEET: 7 OF 42		
					CHECKED	CBF				PROJ No:		7
					REVIEWED	RJB				SA11161315		
DATUM												

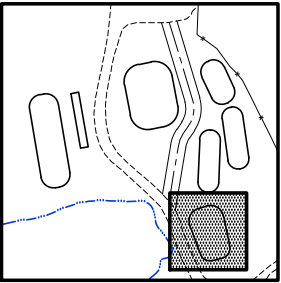
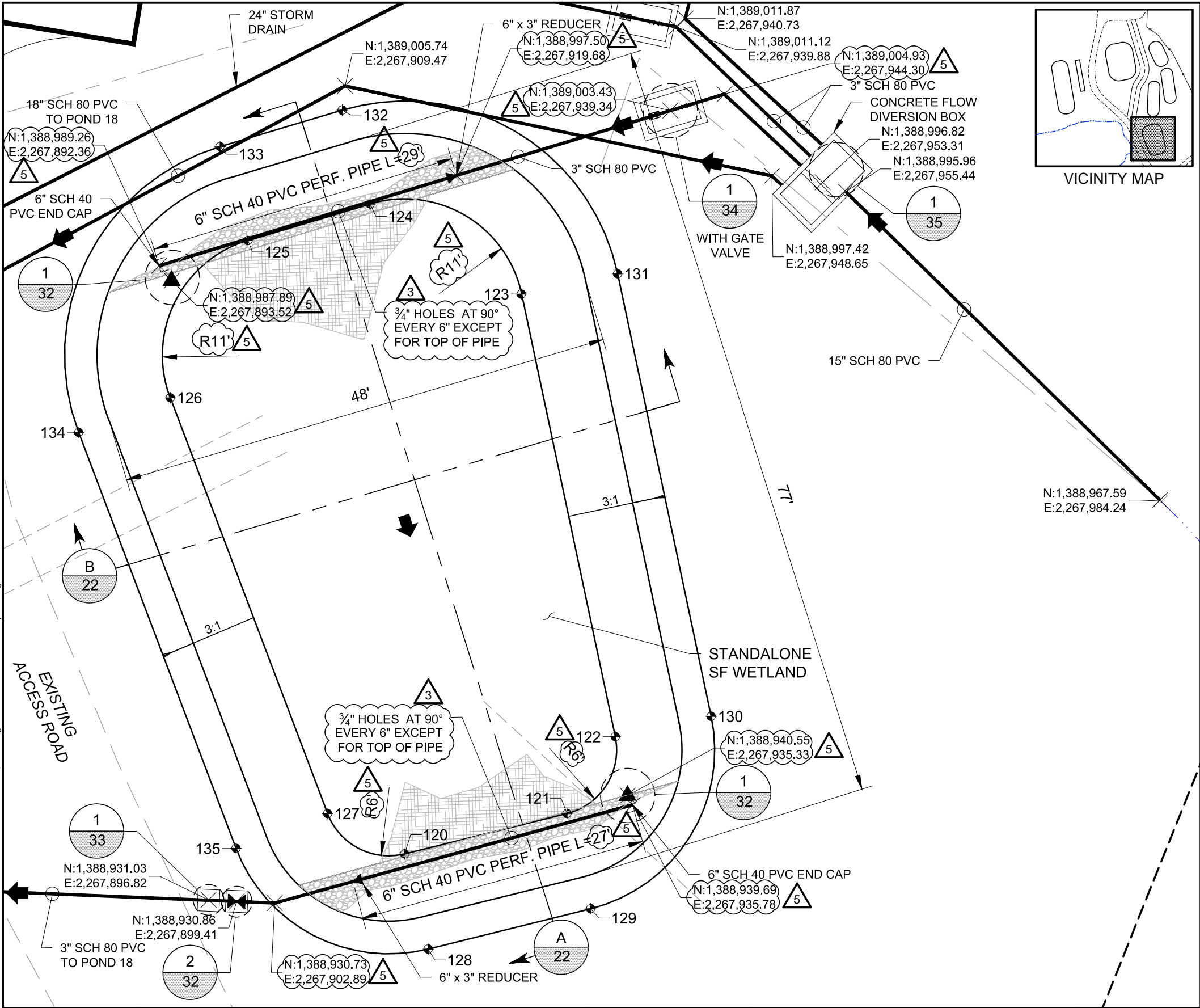
Plot Date: 09/11/13 - 5:36pm
Drawing Path: P:\Project\RICO

Plot Date: 09/11/13 - 5:36pm. Plotted by: mark.crater
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan set\ Drawing Name: Utility plan.dwg



Plot Date: 09/11/13 - 5:36pm, Plotted by: mark.crater
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan set\, Drawing Name: Grading and Drainage plan.dwg

REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN	KF	<div>amec</div> <div>10670 White Rock Road, Suite 100 Rancho Cordova, CA 95670 (916) 636-3200</div>	RICO - ARGENTINE MINE SITE CONSTRUCTED WETLAND DEMONSTRATION		DATE: 05/31/13	
	1	ISSUED FOR REVIEW	05/31/13	STA	DESIGNED	KF				SCALE: 1" = 40'	
	2	ISSUED FOR CONSTRUCTION	06/28/13	STA	CHECKED	CBF		GRADING AND DRAINAGE PLAN		SHEET: 8 OF 42	
					REVIEWED	RJB				PROJ No:	8
										SA11161315	
DATUM											



VICINITY MAP

LEGEND

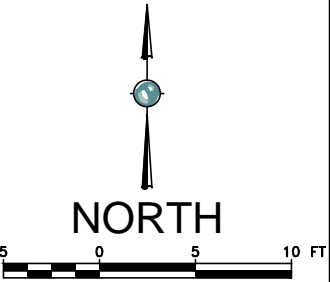
- ▲ TEMPERATURE LOGGER
- ◄ FLOW DIRECTION
- ⊕ FINAL GRADING POINT
- ✕ BALL VALVE

FINAL GRADING POINT TABLE

POINT #	NORTHING	EASTING	ELEV.	DESC.
120	1,388,935.22	2,267,914.83	8833.50	BOM
121	1,388,938.90	2,267,929.76	8833.50	BOM
122	1,388,945.96	2,267,934.19	8833.50	BOM
123	1,388,986.60	2,267,925.63	8833.50	BOM
124	1,388,994.89	2,267,911.76	8833.50	BOM
125	1,388,991.55	2,267,900.54	8833.50	BOM
126	1,388,977.13	2,267,893.38	8833.50	BOM
127	1,388,938.93	2,267,907.78	8833.50	BOM
128	1,388,926.48	2,267,916.98	8836.50	TOB
129	1,388,930.16	2,267,931.91	8836.50	TOB
130	1,388,947.81	2,267,943.00	8836.50	TOB
131	1,388,988.45	2,267,934.47	8836.50	TOB
132	1,389,003.52	2,267,909.20	8836.50	TOB
133	1,389,000.18	2,267,897.98	8836.50	TOB
134	1,388,973.96	2,267,884.96	8836.50	TOB
135	1,388,935.76	2,267,899.36	8836.50	TOB

NOTES:

- SEE HYDRAULIC PROFILE FOR ELEVATIONS OF PIPES, INLET STRUCTURES, AND OUTLET STRUCTURES.
- FOR EXISTING PIPES, SEE PIPING DEMOLITION PLAN.
- SEE CROSS SECTIONS FOR MATRIX MATERIAL.
- SEE DETAIL 2, SHEET 33 FOR TRENCH DETAIL.



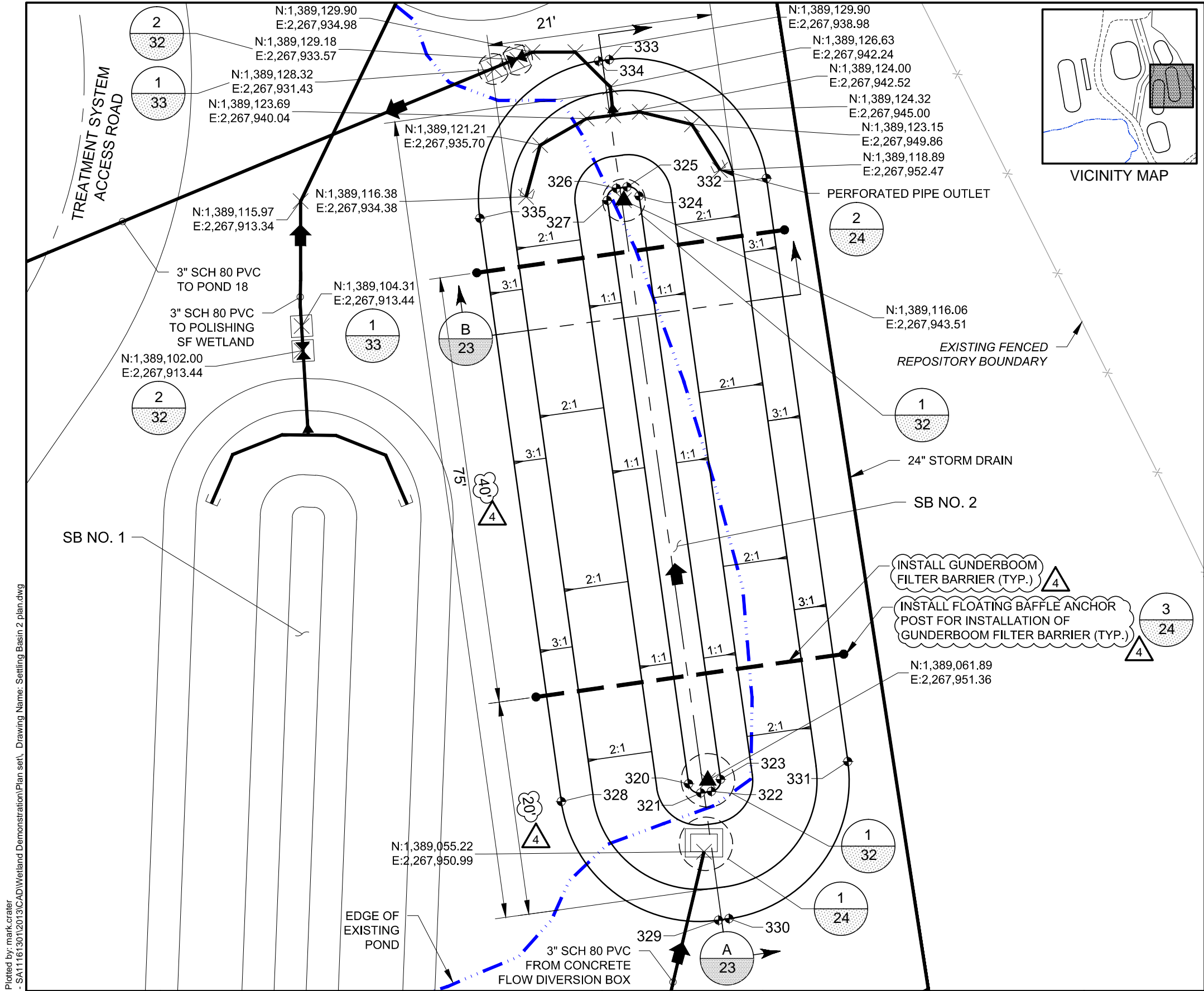
REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN	DWW
	1	ISSUED FOR REVIEW	05/31/13	STA	DESIGNED	KF
DATUM	2	ISSUED FOR CONSTRUCTION	06/28/13	STA	CHECKED	CBF
	3	ADDENDUM 1	08/16/13	STA	REVIEWED	RJB
	5	ADDENDUM 3	09/06/13	STA		

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RICO - ARGENTINE MINE SITE
CONSTRUCTED WETLAND DEMONSTRATION

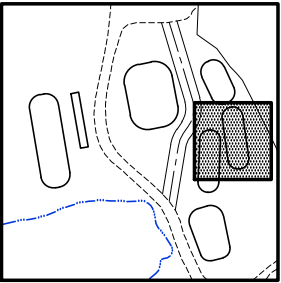
STANDALONE SURFACE
FLOW WETLAND PLAN

DATE: 05/31/13	
SCALE: 1" = 10'	
SHEET: 10 OF 42	
PROJ No:	10
SA11161315	



LEGEND

- ▲ TEMPERATURE LOGGER
- ➔ FLOW DIRECTION
- ⊕ FINAL GRADING POINT
- FLOATING BAFFLE ANCHOR POST
- ⋈ BALL VALVE



FINAL GRADING POINT TABLE

POINT #	NORTHING	EASTING	ELEV.	DESC.
320	1,389,061.56	2,267,949.56	8833.70	BOM
321	1,389,060.71	2,267,950.69	8833.70	BOM
322	1,389,060.85	2,267,951.68	8833.70	BOM
323	1,389,061.98	2,267,952.53	8833.70	BOM
324	1,389,116.45	2,267,944.94	8833.70	BOM
325	1,389,117.30	2,267,943.81	8833.70	BOM
326	1,389,117.17	2,267,942.82	8833.70	BOM
327	1,389,116.04	2,267,941.97	8833.70	BOM
328	1,389,059.91	2,267,937.68	8840.70	TOB
329	1,389,048.83	2,267,952.35	8840.70	TOB
330	1,389,048.96	2,267,953.34	8840.70	TOB
331	1,389,063.64	2,267,964.42	8840.70	TOB
332	1,389,118.11	2,267,956.82	8840.70	TOB
333	1,389,129.19	2,267,942.15	8840.70	TOB
334	1,389,129.05	2,267,941.16	8840.70	TOB
335	1,389,114.38	2,267,930.08	8840.70	TOB

NOTES:

- SEE HYDRAULIC PROFILE FOR ELEVATIONS OF PIPES, INLET STRUCTURES, AND OUTLET STRUCTURES.
- FOR EXISTING PIPES, SEE PIPING DEMOLITION PLAN.
- SEE CROSS SECTIONS FOR MATRIX MATERIAL.
- PROVIDE 6' HIGH CHAIN LINK SECURITY FENCING WITH 2 - 3' WIDE GATES. LOCATE FENCE 8' FROM SB NO. 2 TOB.
- SEE DETAIL 2, SHEET 33 FOR TRENCH DETAIL.



Plot Date: 09/11/13 - 5:37pm. Plotted by: mark.crater
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan set\ Drawing Name: Settling Basin 2 plan.dwg

REFERENCES:
PLANS

DATUM

NO.	REVISION	DATE	APRVD	DRAWN	DWW
1	ISSUED FOR REVIEW	05/31/13	STA	DESIGNED	KF
2	ISSUED FOR CONSTRUCTION	06/28/13	STA	CHECKED	CBF
4	ADDENDUM 2	08/23/13	STA	REVIEWED	RJB

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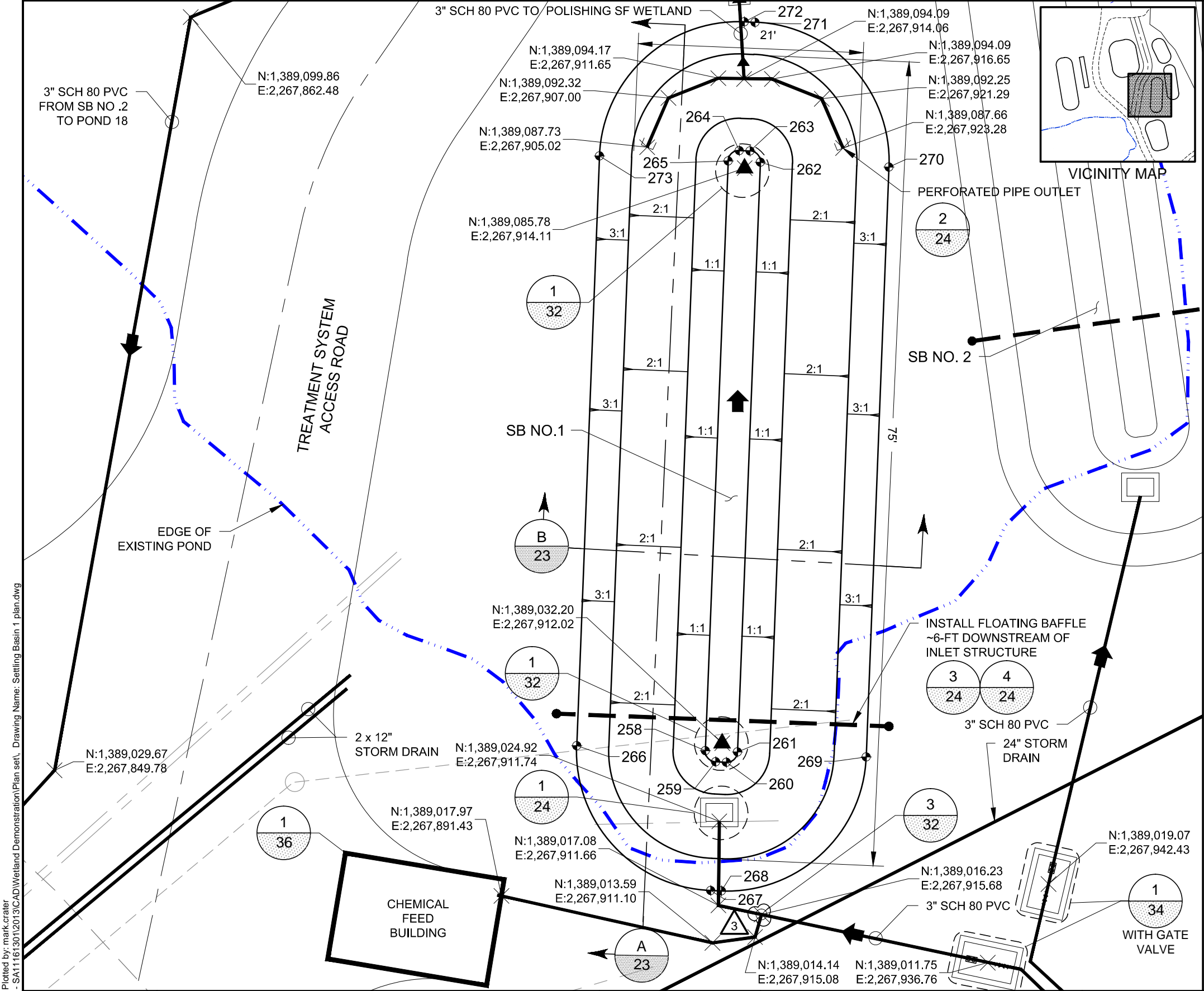
RICO - ARGENTINE MINE SITE
CONSTRUCTED WETLAND DEMONSTRATION

SETTLING BASIN NO. 2 PLAN

DATE: 05/31/13
SCALE: 1" = 10'
SHEET: 11 OF 42

PROJ No:
SA11161315

11

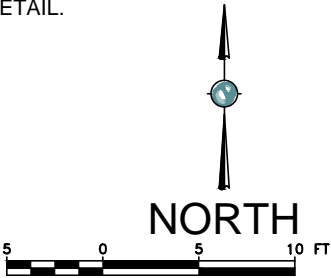


LEGEND

- ▲ TEMPERATURE LOGGER
- ➔ FLOW DIRECTION
- ⊕ FINAL GRADING POINT

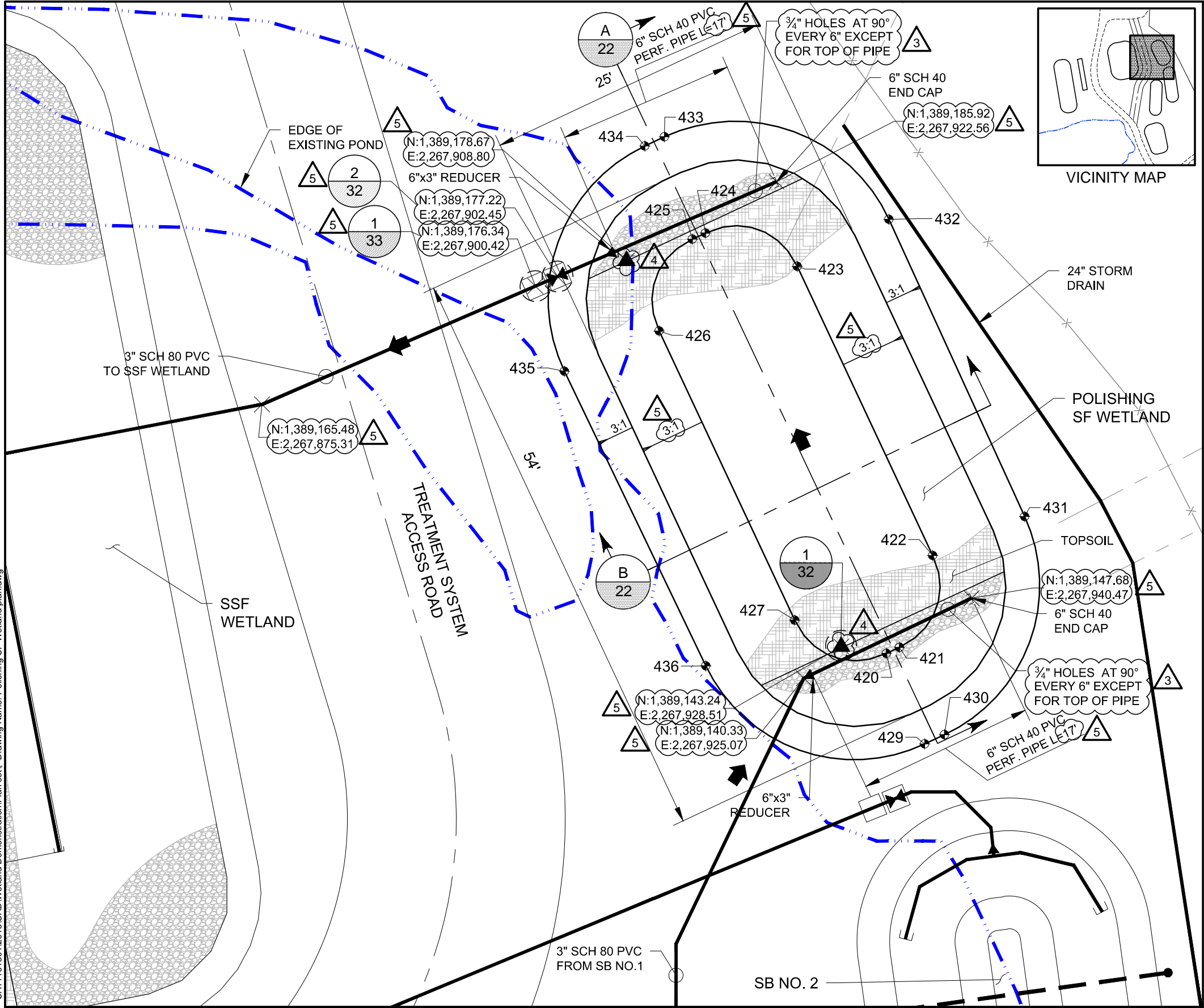
FINAL GRADING POINT TABLE				
POINT #	NORTHING	EASTING	ELEV.	DESC.
258	1,389,031.50	2,267,910.45	8833.70	BOM
259	1,389,030.46	2,267,911.41	8833.70	BOM
260	1,389,030.42	2,267,912.41	8833.70	BOM
261	1,389,031.38	2,267,913.44	8833.70	BOM
262	1,389,086.34	2,267,915.57	8833.70	BOM
263	1,389,087.38	2,267,914.61	8833.70	BOM
264	1,389,087.42	2,267,913.61	8833.70	BOM
265	1,389,086.46	2,267,912.57	8833.70	BOM
266	1,389,031.96	2,267,898.46	8840.70	TOB
267	1,389,018.47	2,267,910.94	8840.70	TOB
268	1,389,018.43	2,267,911.94	8840.70	TOB
269	1,389,030.92	2,267,925.44	8840.70	TOB
270	1,389,085.88	2,267,927.56	8840.70	TOB
271	1,389,099.37	2,267,915.07	8840.70	TOB
272	1,389,099.41	2,267,914.07	8840.70	TOB
273	1,389,086.92	2,267,900.58	8840.70	TOB

- NOTES:
- SEE HYDRAULIC PROFILE FOR ELEVATIONS OF PIPES, INLET STRUCTURES, AND OUTLET STRUCTURES.
 - FOR EXISTING PIPES, SEE PIPING DEMOLITION PLAN.
 - SEE CROSS SECTIONS FOR MATRIX MATERIAL.
 - PROVIDE 6-FT HIGH CHAIN LINK SECURITY FENCING WITH (2) 3-FT GATES. LOCATE FENCE 8-FT FROM TOB.
 - SEE DETAIL 2, SHEET 33 FOR TRENCH DETAIL.



Plot Date: 09/11/13 - 5:37pm. Plotted by: mark.crater
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan set\ Drawing Name: Settling Basin 1 plan.dwg

REFERENCES:		NO.	REVISION	DATE	APRVD	DRAWN	DWW	amc 10670 White Rock Road, Suite 100 Rancho Cordova, CA 95670 (916) 636-3200		RICO - ARGENTINE MINE SITE CONSTRUCTED WETLAND DEMONSTRATION		DATE: 05/31/13	
PLANS		1	ISSUED FOR REVIEW	05/31/13	STA							SCALE: 1" = 10'	
DATUM		2	ISSUED FOR CONSTRUCTION	06/28/13	STA	DESIGNED	KF			SETTLING BASIN NO. 1 PLAN		SHEET: 12 OF 42	
		3	ADDENDUM 1	08/16/13	STA	CHECKED	CBF					PROJ No: SA11161315	
						REVIEWED	RJB					12	



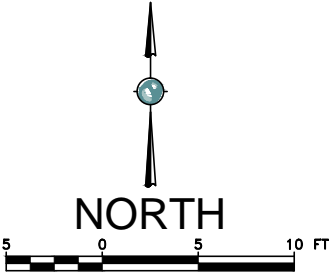
LEGEND

- FLOW DIRECTION
- MONITORING PORT
- FINAL GRADING POINT
- BALL VALVE
- TEMPERATURE LOGGER

FINAL GRADING POINT TABLE

POINT #	NORTHING	EASTING	ELEV.	DESC.
420	1,389,142.61	2,267,932.65	8836.35	BOM
421	1,389,143.17	2,267,933.85	8836.35	BOM
422	1,389,151.60	2,267,936.90	8836.30	BOM
423	1,389,178.16	2,267,924.46	8836.20	BOM
424	1,389,181.21	2,267,916.04	8836.15	BOM
425	1,389,180.64	2,267,914.84	8836.15	BOM
426	1,389,172.22	2,267,911.79	8836.20	BOM
427	1,389,145.66	2,267,924.23	8836.30	BOM
429	1,389,134.31	2,267,936.17	8839.35	TOB
430	1,389,135.16	2,267,937.98	8839.35	TOB
431	1,389,155.18	2,267,945.34	8839.35	TOB
432	1,389,182.47	2,267,932.88	8839.35	TOB
433	1,389,190.04	2,267,912.27	8839.35	TOB
434	1,389,189.20	2,267,910.46	8839.35	TOB
435	1,389,168.51	2,267,903.09	8839.35	TOB
436	1,389,141.47	2,267,916.07	8839.35	TOB

- NOTES:
- SEE HYDRAULIC PROFILE FOR ELEVATIONS OF PIPES, INLET STRUCTURES, AND OUTLET STRUCTURES.
 - FOR EXISTING PIPES, SEE PIPING DEMOLITION PLAN.
 - SEE CROSS SECTIONS FOR MATRIX MATERIAL.
 - SEE DETAIL 2, SHEET 33 FOR TRENCH DETAIL.



Plot Date: 09/11/13 - 5:38pm. Plotted by: mark.crater
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan set\ Drawing Name: Polishing SF Wetland plan.dwg

REFERENCES:	NO.	REVISION	DATE	APRVD	DRAWN
PLANS	2	ISSUED FOR CONSTRUCTION	06/28/13	STA	DWW
DATUM	3	ADDENDUM 1	08/16/13	STA	DESIGNED KF
	4	ADDENDUM 2	08/23/13	STA	CHECKED CBF
	5	ADDENDUM 3	09/06/13	STA	REVIEWED RJB

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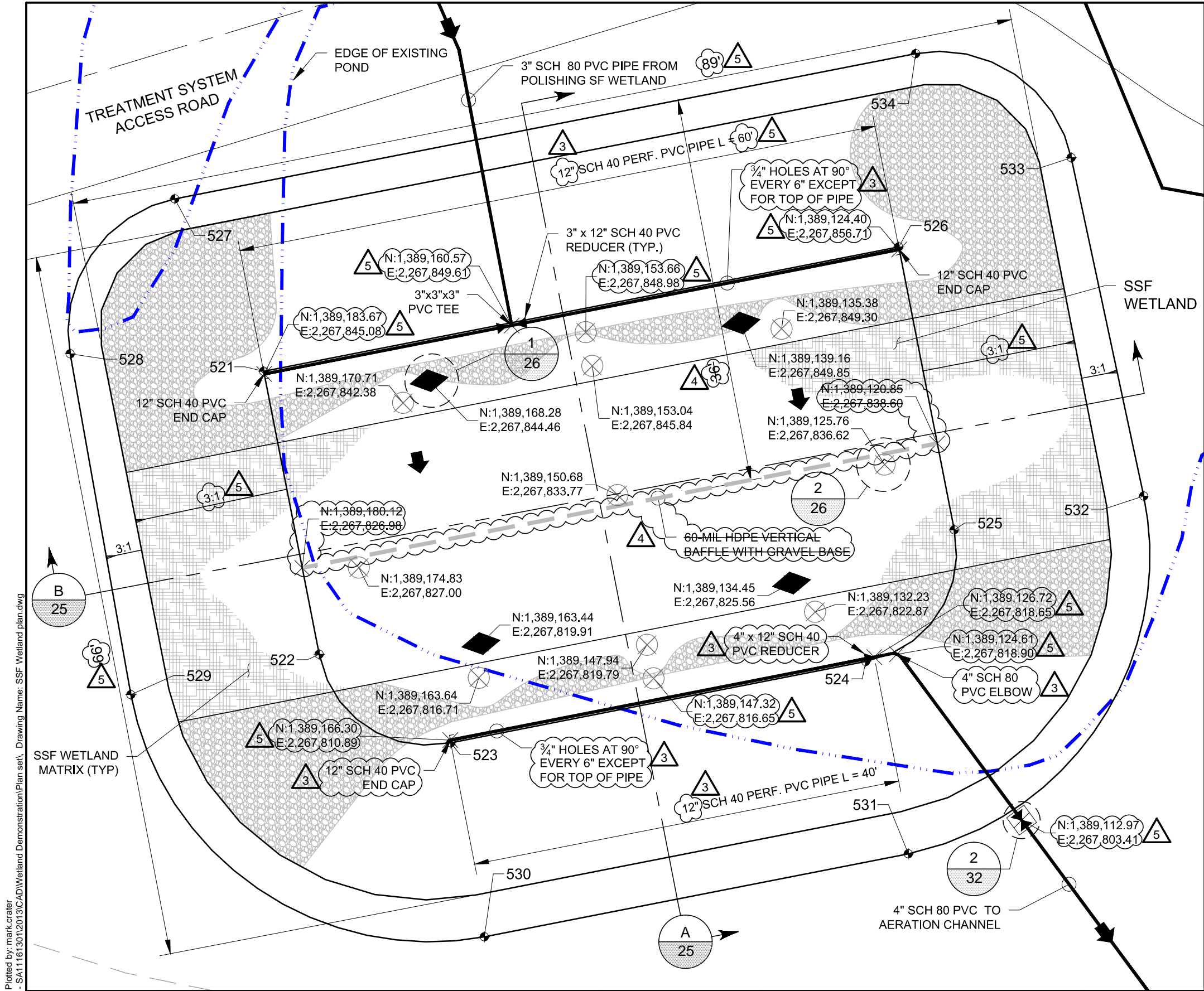
RICO - ARGENTINE MINE SITE
CONSTRUCTED WETLAND DEMONSTRATION

POLISHING SURFACE
FLOW WETLAND PLAN

DATE: 05/31/13
SCALE: 1" = 10'
SHEET: 13 OF 42

PROJ No:
SA11161315

13



LEGEND

- TEMPERATURE PROFILE PROBE
- FLOW DIRECTION
- MONITORING PORT
- FINAL GRADING POINT
- BALL VALVE

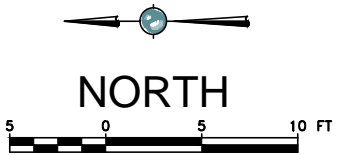
FINAL GRADING POINT TABLE

POINT #	NORTHING	EASTING	ELEV.	DESC.
521	1,389,183.72	2,267,845.33	8831.79	BOM
522	1,389,178.54	2,267,818.90	8831.60	BOM
523	1,389,166.25	2,267,810.64	8831.46	BOM
524	1,389,127.53	2,267,818.24	8831.46	BOM
525	1,389,119.27	2,267,830.52	8831.60	BOM
526	1,389,124.45	2,267,856.95	8831.79	BOM
527	1,389,192.01	2,267,861.44	8837.59	BOM
528	1,389,201.77	2,267,846.96	8837.59	BOM
529	1,389,196.11	2,267,815.13	8837.59	TOB
530	1,389,163.12	2,267,792.52	8837.59	TOB
531	1,389,123.54	2,267,800.28	8837.59	TOB
532	1,389,101.57	2,267,833.69	8837.59	TOB
533	1,389,108.35	2,267,865.28	8837.59	TOB
534	1,389,122.86	2,267,875.00	8837.59	TOB

NOTES:

- SEE HYDRAULIC PROFILE FOR ELEVATIONS OF PIPES, INLET STRUCTURES, AND OUTLET STRUCTURES.
- FOR EXISTING PIPES, SEE PIPING DEMOLITION PLAN.
- SEE CROSS SECTIONS FOR MATRIX MATERIAL.
- SEE DETAIL 2, SHEET 33 FOR TRENCH DETAIL.

2 MONITORING PORTS ADDED AND OTHER 9 RELOCATED.



Plot Date: 09/11/13 - 5:38pm. Plotted by: mark.crater
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan set\ Drawing Name: SSF Wetland plan.dwg

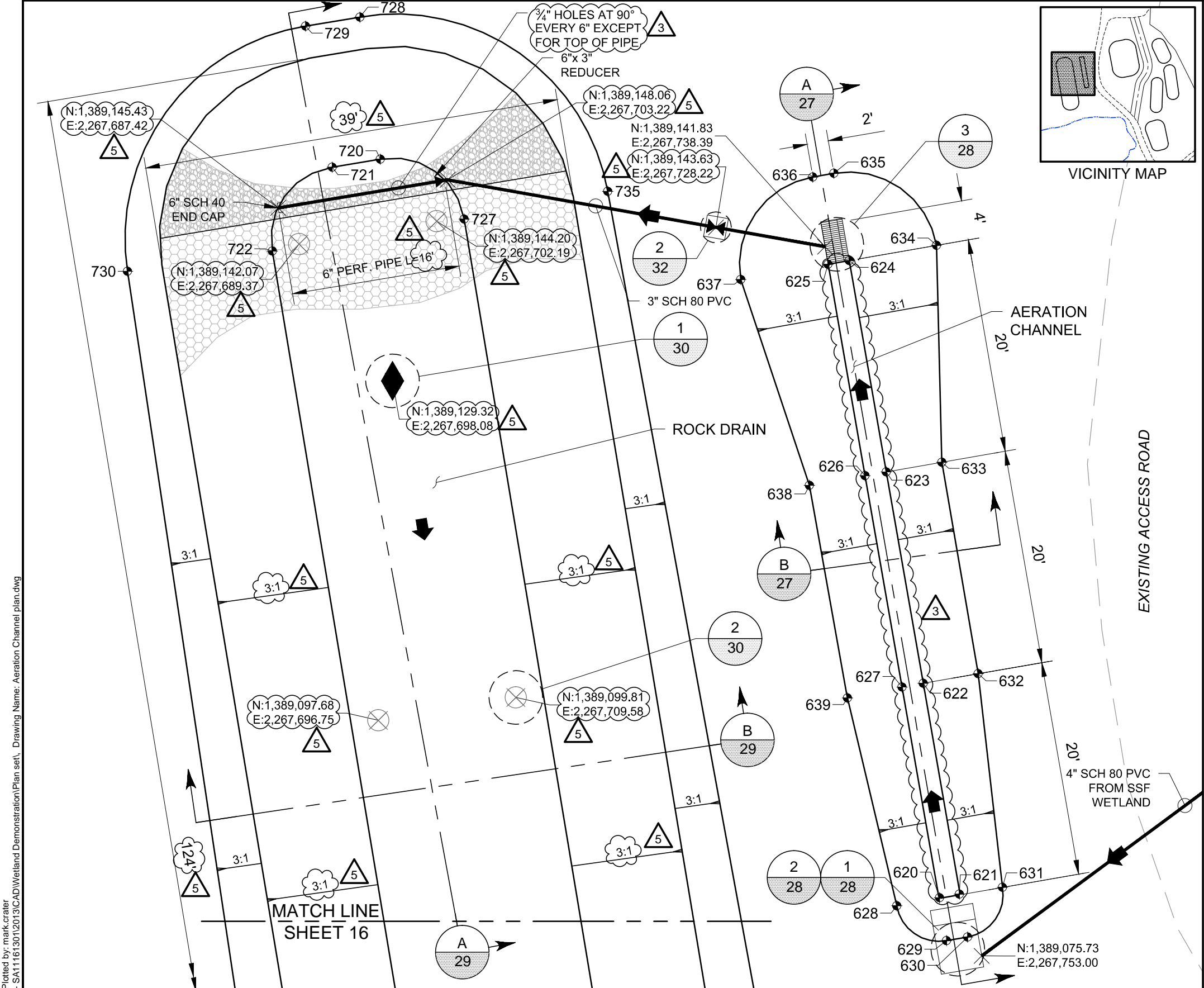
REFERENCES:	NO.	REVISION	DATE	APRVD	DRAWN	DWW
PLANS	2	ISSUED FOR CONSTRUCTION	06/28/13	STA	DESIGNED	KF
DATUM	3	ADDENDUM 1	08/16/13	STA	CHECKED	CBF
	4	ADDENDUM 2	08/23/13	STA	REVIEWED	RJB
	5	ADDENDUM 3	09/06/13	STA		

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RICO - ARGENTINE MINE SITE
CONSTRUCTED WETLAND DEMONSTRATION

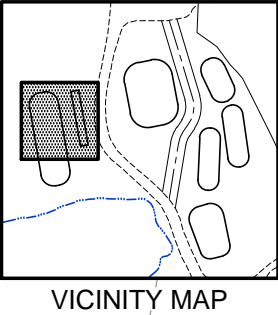
SUBSURFACE FLOW WETLAND PLAN

DATE: 05/31/13
SCALE: 1" = 10'
SHEET: 14 OF 42
PROJ No: SA11161315
14



LEGEND

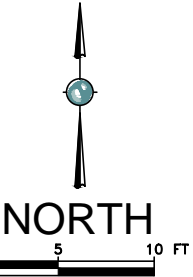
- TEMPERATURE PROFILE PROBE
- FLOW DIRECTION
- MONITORING PORT
- FINAL GRADING POINT
- BALL VALVE



FINAL GRADING POINT TABLE

POINT #	NORTHING	EASTING	ELEV.	DESC.
620	1,389,081.15	2,267,749.07	8831.86	BOM
621	1,389,081.48	2,267,750.92	8831.86	BOM
622	1,389,101.13	2,267,747.54	8831.46	BOM
623	1,389,120.83	2,267,744.09	8831.44	BOM
624	1,389,140.53	2,267,740.65	8830.44	BOM
625	1,389,140.19	2,267,738.68	8830.44	BOM
626	1,389,120.49	2,267,742.12	8831.44	BOM
627	1,389,100.79	2,267,745.57	8831.46	BOM
628	1,389,080.40	2,267,745.08	8833.86	TOB
629	1,389,077.14	2,267,749.71	8833.86	TOB
630	1,389,077.49	2,267,751.68	8833.86	TOB
631	1,389,082.12	2,267,754.93	8833.86	TOB
632	1,389,102.03	2,267,752.66	8833.86	TOB
633	1,389,121.74	2,267,749.27	8833.86	TOB
634	1,389,141.96	2,267,748.78	8833.86	TOB
635	1,389,148.67	2,267,739.22	8833.86	TOB
636	1,389,148.32	2,267,737.25	8833.86	TOB
637	1,389,138.76	2,267,730.54	8833.86	TOB
638	1,389,119.58	2,267,736.94	8833.86	TOB
639	1,389,099.77	2,267,740.48	8833.86	TOB

- NOTES:
- SEE SHEET 16 FOR ROCK DRAIN POINT TABLE
 - SEE HYDRAULIC PROFILE FOR ELEVATIONS OF PIPES, INLET STRUCTURES, AND OUTLET STRUCTURES.
 - FOR EXISTING PIPES, SEE PIPING DEMOLITION PLAN.
 - SEE CROSS SECTIONS FOR MATRIX MATERIAL.
 - SEE DETAIL 2, SHEET 33 FOR TRENCH DETAIL.



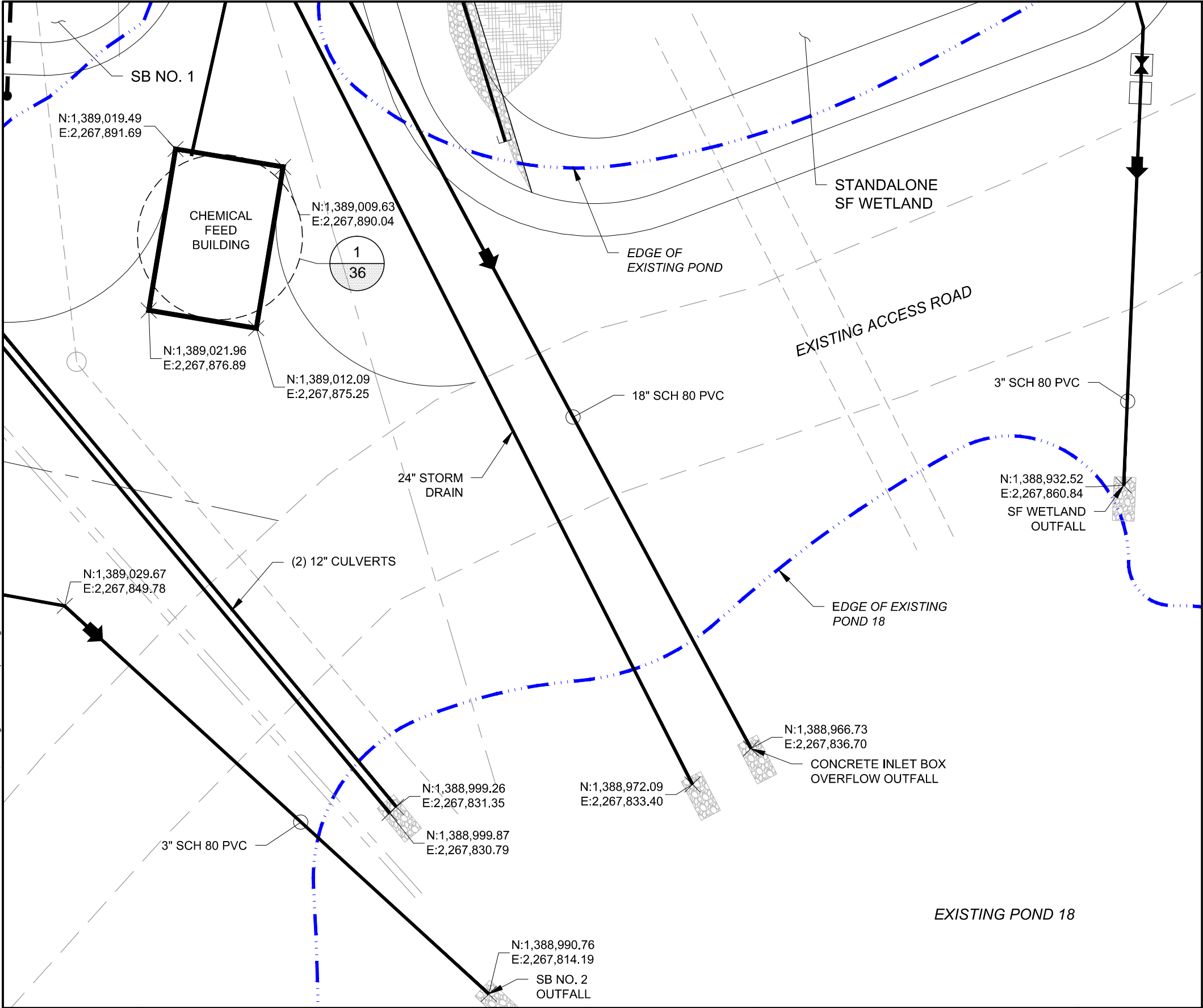
Plot Date: 09/11/13 - 5:39pm, Plotted by: mark.crater
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan set\, Drawing Name: Aeration Channel plan.dwg

REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN	DWW
	1	ISSUED FOR REVIEW	05/31/13	STA	DESIGNED	KF
DATUM	2	ISSUED FOR CONSTRUCTION	06/28/13	STA	CHECKED	CBF
	3	ADDENDUM 1	08/16/13	STA	REVIEWED	RJB
	5	ADDENDUM 3	09/06/13	STA		



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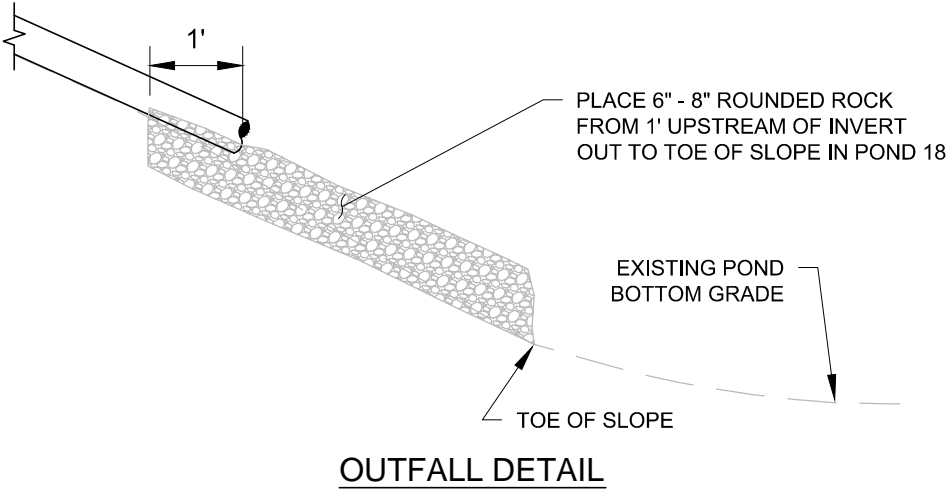
RICO - ARGENTINE MINE SITE CONSTRUCTED WETLAND DEMONSTRATION		DATE: 05/31/13	
		SCALE: 1" = 10'	
		SHEET: 15 OF 42	
AERATION CHANNEL PLAN		PROJ No:	15
		SA11161315	



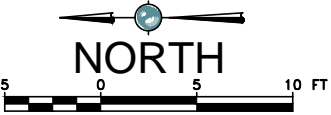
LEGEND

← FLOW DIRECTION

⌵ BALL VALVE



- NOTES:**
- SEE HYDRAULIC PROFILE FOR ELEVATIONS OF PIPES, INLET STRUCTURES, AND OUTLET STRUCTURES.
 - PROVIDE 8 CY OF 6"-8" ROUNDED ROCK TOTAL TO PLACE AS OUTLET PROTECTION FOR EACH OUTFALL PIPE INTO POND 18.
 - FOR EXISTING PIPES, SEE PIPING DEMOLITION PLAN.
 - SEE DETAIL 2, SHEET 33 FOR TRENCH DETAIL.



REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN_____MGC	 10670 White Rock Road, Suite 100 Rancho Cordova, CA 95670 (916) 636-3200	RICO - ARGENTINE MINE SITE CONSTRUCTED WETLAND DEMONSTRATION			DATE: 05/31/13	
	1	ISSUED FOR REVIEW	05/31/13	STA	DESIGNED_____KF					SCALE: 1" = 10'	
	2	ISSUED FOR CONSTRUCTION	06/28/13	STA	CHECKED_____CBF		OUTFALL PLAN			SHEET: 17 OF 42	
					REVIEWED_____RJB					PROJ No:	17
	DATUM									SA11161315	

Plot Date: 09/11/13 - 5:39pm, Plotted by: mark.crater
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan set\, Drawing Name: Outfall plan.dwg